
2012 Space Human Factors Engineering Standing Review Panel

Status Review for:

*The Risk of an Incompatible Vehicle/Habitat Design,
The Risk of Inadequate Critical Task Design,
The Risk of Inadequate Design of Human and Automation/Robotic Integration, and
The Risk of Performance Errors Due to Training Deficiencies*

Comments to the Human Research Program, Chief Scientist

2012 Space Human Factors Engineering (SHFE) Status Review Standing Review Panel (SRP)
WebEx/teleconference Participants:

SRP Members:

Anna Wichansky, Ph.D. (Chair) – Oracle
Norman Badler, Ph.D. – University of Pennsylvania
Keith Butler, Ph.D. – University of Washington
Patricia DeLucia, Ph.D. – Texas Tech University
Jean Scholtz, Ph.D. – Battelle Memorial Institute
Randall Shumaker, Ph.D. – University of Central Florida

NASA Ames Research Center (ARC):

Mary Kaiser, Ph.D.

NASA Johnson Space Center (JSC):

Erin Connell, Ph.D.
Kritina Holden, Ph.D.
Craig Kundrot, Ph.D.
Susan Steinberg, Ph.D.
Thomas Sullivan, Ph.D.
Mihriban Whitmore, Ph.D.
Barbara Woolford

NASA Research and Education Support Services (NRESS):

Tiffin Ross-Shepard

On November 16, 2012, the SHFE SRP, participants from JSC and NRESS participated in a WebEx/teleconference. The purpose of the call (as stated in the Statement of Task) was to allow the SRP members to:

1. Receive an update by the HRP Chief Scientist or Deputy Chief Scientist on the status of NASA's current and future exploration plans and the impact these will have on the HRP.
 2. Receive an update on any changes within the HRP (for example, each of the Elements rewriting their gaps) since the 2011 SRP meeting.
 3. Receive an update by the Element or Project Scientist(s) on progress since the 2011 SRP meeting.
 4. Participate in a discussion with the HRP Chief Scientist, Deputy Chief Scientist, and the Element regarding possible topics to be addressed at the next SRP meeting.
-

Based on the information provided in the presentations and the discussion during the WebEx/teleconference, the SRP would like to relay the following information to Dr. Kundrot, the HRP Chief Scientist (Acting).

1. The SRP was pleased with the thoroughness of the presentations from the HRP Chief Scientist and the SHFE Project Scientists.
2. The SRP thinks that given the current state of mission planning and lack of a known mission destination, the SHFE Project has made an appropriate choice in not doing much in the training area (TRAIN risk).
3. The SRP was quite pleased with the changes and progress made to the habitability risk (HAB).
4. The new method of detailing interim steps to close the gaps related to the HCI risk was a good approach and can provide a much clearer picture of progress or lack thereof on these projects.
5. With respect to the responses that the SRP received back from the SHFE Project to their 2011 Evidence and Research Plan reports, the SRP thought the following:
 - Generally, the SRP thinks the responses from the SHFE Project were reasonable and thoughtful for both reports.
 - Gap 5, Task 1. It was not clear to the SRP how much impact the spinal elongation can have on design eyepoint. If eyepoint is the main issue, can this be simply accommodated by adequate (extended range) anthropometric considerations? For example, could a height variance be accommodated by increasing the anthropometric design range?
 - In Section VI., p.22 of the 2011 Research Plan Review response, the SHFE Project appears to be suggesting that the SRP should prioritize tasks when giving recommendations to accelerate specific tasks. The SRP still thinks that a better method of prioritizing tasks needs to be developed by the SHFE Project.